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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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09/892,414

06/27/2001

Werner Agne

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05/28/2004

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EXAMINER

KNOLL, CLIFFORD H

ART UNIT

PAPER NUMBER

2112

10

DATE MAILED: 05/28/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/892,414

Applicant(s)

AGNE, WERNER

Examiner

Clifford H Knoll

Art Unit

2112

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 12 March 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-14 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-14 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

This Office Action is responsive to communication filed 3/12/04. Currently claims 1-14 are pending.

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claim Rejections - 35 USC § 103

Claims 1-5 rejected under 35 U.S.C. 103(a) as being obvious over Schreiter (US 5598149) in view of Shimada (US 6658013).

Regarding claims 1 and 8, Schreiter discloses a central data line with stub-like data lines in which signal processing units are arranged (Figure 1). Schreiter does not disclose the return from the last to the first signal processing unit of the stub-like data line; however de Boer discloses this feature. de Boer discloses transmitting and receiving elements that pass on data in a serial form wherein a return from the last to the first signal processing unit of the stub-like data line is provided (e.g., Fig. 2, "210"). It would have been obvious to combine de Boer with Schreiter because de Boer teaches the advantages of using a return to provide a level of redundancy in a bus with a possible fault in a hierarchical ring network such as the network of Schreiter. Therefore it would have been obvious to one of ordinary skill in the art to combine de Boer with Schreiter to obtain the claimed invention.

Regarding claim 2, Schreiter discloses a central data line with stub-like data lines in which signal processing units are arranged serially along the branch (Figure 1).

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Schreiter does not disclose the return from the last to the first signal processing unit of the stub-like data line; however de Boer discloses this feature. de Boer discloses transmitting and receiving elements that pass on data in a serial form wherein a return from the last to the first signal processing unit of the central data line is provided (e.g., Figure 2, "gateway node"). It would have been obvious to combine de Boer with Schreiter because de Boer teaches the advantages of using a return to provide a level of redundancy in a bus with a possible fault. Therefore it would have been obvious to one of ordinary skill in the art to combine de Boer with Schreiter to obtain the claimed invention.

Regarding claim 3, Schreiter also discloses a distributor node having a group control function (e.g., col. 4, lines 12-19).

Regarding claim 4, Schreiter also discloses a substitute distributor node is between a distributor node and the first signal processing unit of the respective branch off stub-like data line (e.g., col. 4, lines 12-19).

Regarding claim 5, Schreiter also discloses a field bus system (e.g., col. 4, lines 45-55).

Regarding claim 7, Schreiter also discloses a substitute distributor node is coupled with distributor nodes adjacent to the distributor node coupled with the branch off stub-like data line (e.g., col. 4, lines 12-19).

Regarding claim 9, Schreiter does not disclose the return from the last to the first signal processing unit of the stub-like data line; however de Boer discloses this feature. de Boer discloses transmitting and receiving elements that pass on data in a serial form

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wherein a return from the last to the first distributor node is provided (e.g., Figure 2, "gateway node").

Regarding claim 10, Schreiter also discloses a distributor node having a group control function (e.g., col. 4, lines 12-19).

Regarding claim 11, Schreiter also discloses a substitute distributor node is between a distributor node and the first signal processing unit of the respective branch off stub-like data line (e.g., col. 4, lines 12-19).

Regarding claim 12, Schreiter also discloses a field bus system (e.g., col. 4, lines 45-55).

Regarding claim 14, Schreiter also discloses a substitute distributor node is coupled with distributor nodes adjacent to the distributor node coupled with the branch off stub-like data line (e.g., col. 4, lines 12-19).

Claims 6 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Schreiter (US 5598149) and de Boer (US 6640276) as applied to claims 1, 2 and 13 above, and further in view of Pye ("Which field bus do you go for?").

Schreiter does not disclose the particular embodiment of an Ethernet; however the use of Ethernet as a field bus embodiment is well known as exemplified by Pye. Pye discloses the Ethernet transmission system. A person would be motivated to combine Pye with Schreiter, because Pye teaches the advantages (e.g., "ideally positioned", p. 27) to choosing Ethernet as the two-wire data transmission system in a factory system, such as the system that Burns discloses. Therefore, it would be

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obvious to one of ordinary skill in the art to combine Pye with Schreiter at the time the invention was made.

Response to Arguments

Applicant's arguments with respect to claims 1-14 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Shimada (US 6647014) also discloses return lines in stub-like data lines (e.g., Figs. 6, 7).

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

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the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Clifford H Knoll whose telephone number is 703-305-8656. The examiner can normally be reached on M-F 0630-1500.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mark H Rinehart can be reached on 703-305-4815. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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